Ex parte Singh et al

THIS OPINION WAS NOT WRITTEN FOR PUBLICATION

The opinion in support of the decision being entered today (1) was not written for publication in a law journal and (2) is not binding precedent of the Board.

Paper No. 19

UNITED STATES PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte INDERJIT SINGH and SUKHBIR SINGH

Appeal No. 96-1632
Application 08/402,409[1]

ON BRIEF

Before CALVERT, MEISTER and McQUADE, *Administrative Patent Judges*.

MEISTER, *Administrative Patent Judge*.

DECISION ON APPEAL

Inderjit Singh and Sukhbir Singh (the appellants) appeal from the final rejection of claims 1-8, the only claims remaining in the application. We reverse.

The appellants' invention pertains to a socketless burn-in module for testing semiconductor devices. Independent

[1] Application for patent filed March 10, 1995. According to appellants, the application is a continuation of Application 08/123,275, filed September 17, 1993, now abandoned.

claim 1 is further illustrative of the appealed subject matter and reads as follows:

1. A socketless burn-in module for testing devices having leads comprising:

a lower socketless board having a plurality device positions for providing lateral support for said devices under test, said lower socketless board having a first end having end contact pads for coupling to a burn-in oven, said lower socketless board having electrical leads extending from said end contact pads to said device positions for routing signals from said end contact pads to said device positions, said device positions having a plurality of device contact pads adapted to connect to said device leads, all of said device positions being free of sockets;

an upper socketless board having device positions providing lateral support for said devices, said device positions of said upper socketless board being free of sockets; and

a connector for coupling said lower socketless board to said upper socketless board.

The references relied on by the examiner are:

Wyss	4,535,536	Aug. 20, 1985
Corbett et al. (Corbett)	4,899,107	Feb. 06, 1990

Claims 1, 2 and 4-8 stand rejected under 35 U.S.C. § 103 as being unpatentable over Corbett.

Claim 3 stands rejected under 35 U.S.C. § 103 as being unpatentable over Corbett in view of Wyss.

Each of the above-noted rejections is based on the examiner's view that Corbett teaches a burn-in module for testing semiconductor devices having

> all of the limitations of said claims, namely a lower socketless board (11) having a plurality of certain device positions, an upper socketless board (12) having certain device positions, said device positions including a depression (17), electrical leads (23) connected to a connector on the socketless boards, connector pins (31) at said device positions adapted to be coupled to said leads where said connector pins route signals from said device positions to said device leads, except a connector for coupling said lower socketless board (11) to said upper socketless board (12) and said upper socketless board having passages facilitating air flow to cool said devices. [See answer, page 3.]

While we agree with the examiner that Corbett discloses the limitations which he has specifically noted, we cannot agree that Corbett discloses **all** of the claimed limitations except for a connector and passages for facilitating the flow of air in the upper socketless board.[2] That is, independent claim 1 **also** expressly requires that the **lower** socketless board have a plurality of device positions "having a plurality of device contact pads [i.e., appellants' contact pads 300] adapted to connect" to the leads on the devices being tested. We find no structure, nor has the examiner identified any structure, in Corbett which satisfies this limitation. In Corbett, the "positions" in the lower socketless board which provide lateral

[2] This latter limitation is found only in dependent claim 4.

support for the devices being tested are depressions or cavities 17 which have spring biased "platforms" 41 located therein. These platforms have no contact pads "adapted to connect to" leads on the semiconductor devices being tested. Instead, the platforms function to bias the semiconductor devices being tested into electrical contact with probe tips 31 located on the **upper** socketless board (see Corbett, column 3, lines 14-36).

We have carefully reviewed Wyss, but find nothing therein which would overcome the deficiencies noted above with respect to Corbett.

Lacking a suggestion in the relied on prior art of the provision of contact pads on the lower socketless board that are adapted to connect to the leads of the devices being tested as expressly required by independent claim 1, we will not sustain

the examiner's rejection of the appealed claims under 35 U.S.C. § 103. Accordingly, the decision of the examiner is reversed.

REVERSED

IAN A. CALVERT)
Administrative Patent Judge)
)
) BOARD OF
) PATENT APPEALS
JAMES M. MEISTER) AND
Administrative Patent Judge) INTERFERENCES
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)
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